We claim:

1. A method for determining a vertical level of a fluid within a container, the method comprising:

moving air downward along the inside of a bubble tube at an angle from vertical of about 5 degrees to about 85 degrees to an opening of the bubble tube leading into the container; and

while moving the air downward, monitoring the pressure of the air in the bubble tube.

2. The method of claim 1, wherein the bubble tube is coupled to the container at an angle from vertical of about 5 degrees to about 85 degrees, and the step of moving air downward includes providing a substantially continuous supply of air to the bubble tube.

3. The method of claim 2, wherein the step of moving air downward further comprises providing a substantially continuous supply of steam to the bubble tube.

4. The method of claim 3, wherein the step of monitoring includes measuring the pressure of a mixture of the air and steam within the bubble tube.

5. The method of claim 1, wherein the step of monitoring includes measuring the pressure of air within an air supply line supplying the air to the bubble tube.

6. The method of claim 1, wherein the fluid is selected from the group consisting of an ammonium phosphate slurry, a scrubber solution, and a phosphoric acid solution.

7. The method of claim 1, wherein for the step of moving, the angle from vertical is about 30 degrees to about 60 degrees.

8. The method of claim 7, wherein for the step of moving, the angle from vertical is about 45 degrees.

9. The method of claim 1, wherein for the step of moving, the bubble tube includes a pipe having a diameter of about 2 inches to about 6 inches.

10. The method of claim 9, wherein for the step of moving, the bubble tube includes a pipe having a diameter of about 4 inches.

11. The method of claim 1, further comprising purging the bubble tube with high-pressure air and high-pressure steam.

12. A method for determining a vertical level of a fluid within a container having a bubble tube coupled to the container for dispensing bubbles into the fluid at a point below the surface of the fluid, the method comprising:

providing a substantially continuous supply of air and steam to the bubble tube; and

while providing the air and steam, monitoring the pressure of the air in the bubble tube.

13. The method of claim 12, wherein the step of providing includes injecting air into the bubble tube from an air supply line attached to the bubble tube and injecting steam into the bubble tube from a steam supply line attached to the bubble tube.

14. The method of claim 12, wherein the step of monitoring includes measuring the pressure of a mixture of the air and steam within the bubble tube.

15. The method of claim 12, wherein the step of monitoring includes measuring the pressure of air within an air supply line supplying the air to the bubble tube.

16. The method of claim 12, wherein the fluid is selected from a group consisting of an ammonium phosphate slurry, a scrubber solution, and a phosphoric acid solution.

17. A differential pressure bubbler system comprising:

a tank;

a tube coupled to the tank at an angle from vertical of about 5 degrees to about 90 degrees, the tube having an opening into the tank substantially near a bottom of the tank;

an air supply line coupled to the bubble tube; and

a pressure sensor coupled to the bubble tube.

18. The differential pressure bubbler system of claim 17, further comprising a fluid contained within the tank having a vertical level above the tube opening.

19. The differential pressure bubbler system of claim 18, wherein the fluid is selected from the group consisting of an ammonium phosphate slurry, a scrubber solution, and a phosphoric acid solution.

20. The differential pressure bubbler system of claim 17, further comprising a steam inlet line coupled to the tube.

21. The differential pressure bubbler system of claim 20, wherein the steam inlet line is attached to the tube, and the air supply line is attached to the tube.

22. The differential pressure bubbler system of claim 20, wherein the angle from vertical is about 90 degrees.

23. The differential pressure bubbler system of claim 20, wherein the tube has a diameter of about 1 inch.

24. The differential pressure bubbler system of claim 17, further comprising an air purge line and a steam purge line coupled to the tube.

25. The differential pressure bubbler system of claim 17, wherein the angle from vertical is about 30 to about 60 degrees.

26. The differential pressure bubbler system of claim 25, wherein the angle from vertical is about 45 degrees.

27. The differential pressure bubbler system of claim 17, wherein the tube has a diameter of about 2 to about 6 inches.

28. The differential pressure bubbler system of claim 27, wherein the tube has a diameter of about 4 inches.

29. The differential pressure bubbler system of claim 28, wherein the angle from vertical is about 45 degrees and the length of the tube is about 10 inches to about 24 inches.

30. A differential pressure bubbler system comprising:

an ammonium phosphate reactor tank containing an ammonium phosphate slurry, the reactor tank having a substantially vertical side wall;

a bubble tube attached to the side wall substantially near a bottom of the tank at an angle of about 5 degrees to about 85 degrees from the side wall;

an air supply line coupled to the bubble tube; and

a steam supply line coupled to the bubble tube.

31. The differential pressure bubbler system of claim 30, wherein the angle from the side wall is about 45 degrees, the diameter of the bubble tube is about 4 inches, and the length of the bubble tube is about 10 to 24 inches.